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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,643	03/02/2004	William G. Fredrick JR.	6492-000001	3072

27572 7590 01/03/2007  
HARNESSE, DICKEY & PIERCE, P.L.C. .  
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BLOOMFIELD HILLS, MI 48303

EXAMINER
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ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/791,643

Applicant(s)

FREDRICK ET AL.

Examiner

M. Alexandra Elve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tovey et al. (USPN 6,231,565) in view of Matsunno et al. (USPN 5,061,839).

Tovey et al. discloses a control means for an electro-mechanical actuation assembly for controlling the operation and movement of a surgical tool member. The tool may be a laser. An actuation assembly transmits, via a cable to the robotic system having a lower arm with a tool such as a lasing device. The control unit is linked with the actuation assembly, which then controls the surgical tool such that linear advancements are made.

Tovey et al. does not teach a height sensor which is proximal to the laser head.

Matsunno et al. discloses a gap sensor (23), which is proximal to the laser head. The gap sensor measures the distance (gap) between the nozzle and the workpiece. This ensures that the gap is maintained at a predetermined value.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a gap sensor (height sensor), which is proximal to the laser head, as taught by Matsunno et al. in the Tovey et al. system because it ensures the correct focus point of the laser beam.

Claims 1-4 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tovey et al. in view of Otsuki et al. (USPN 5,624,587).

Tovey et al. does not teach a height sensor which is proximal to the laser head.

Otsuki et al. discloses a distance sensor, which is attached to the nozzle (i.e. it is proximal) and measures a height distance.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a distance sensor (height sensor), which is proximal to the laser head, as taught by Otsuki et al. in the Tovey et al. system because it ensures the correct focus point of the laser beam.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tovey et al. and Matsunno et al. or Otsuki et al. as stated in the above paragraph and further in view of Uchino et al. (USPN 5,374,804).

Tovey et al. discloses linear advancements but does not specifically teach height. Additionally, the use of rollers is not taught.

Uchino et al. discloses a laser head device, which is mounted onto a shaft, which has X, Y and Z-axis of freedom. A Z-axis motor allows height movement of the laser head. The Z-axis base is provided with a guide bar extending in the Z-axis direction. A pair of guide rollers to be guided by the guide bar is rotatably attached to the axis motor base.

It would have been obvious to one of ordinary skill in the art at the time of the invention to disclose a Z axis of motion, that is, height and a guide roller as taught by Uchino et al. in the Tovey et al. system because this is a type of linear advancement and the device upon which to achieve advancement motion.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tovey et al. and Matsunno et al. or Otsuki et al. as stated in the paragraph above and further in view of Bishop (USPN 6,211,483).

Tovey et al. does not teach use of an actuation mechanism using an air cylinder.

Bishop discloses a laser welding assembly for industrial processing. The apparatus is adaptable to many positions and repositionings. Movement or linear advancements use motors or actuators such as an air cylinder.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use an air cylinder as taught by Bishop in the Tovey et al. assembly because the air cylinder is merely a specific type of actuator.

### ***Response to Arguments***

Applicant's arguments filed 9/7/06 have been fully considered but they are not persuasive.

Applicant argues that Tovey et al. does not teach an actuating mechanism. The examiner respectfully disagrees because Tovey et al. does teach an actuation

assembly. Furthermore, the provision of mechanical or automated means to replace manual activity was held to have been obvious. In re Venner 120 USPQ 192.

Applicant argues that instant claims state a remote actuation mechanism. The examiner respectfully notes that the reference does teach an actuation assembly, although it is not remote. Rearrangement of parts was held to have been obvious. In re Gazda 104 USPQ 400.

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. Arguments with respect to the proximal height sensor are based on applicant's new amendments.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 26, 2006.



M. Alexandra Elve  
Primary Examiner 1725